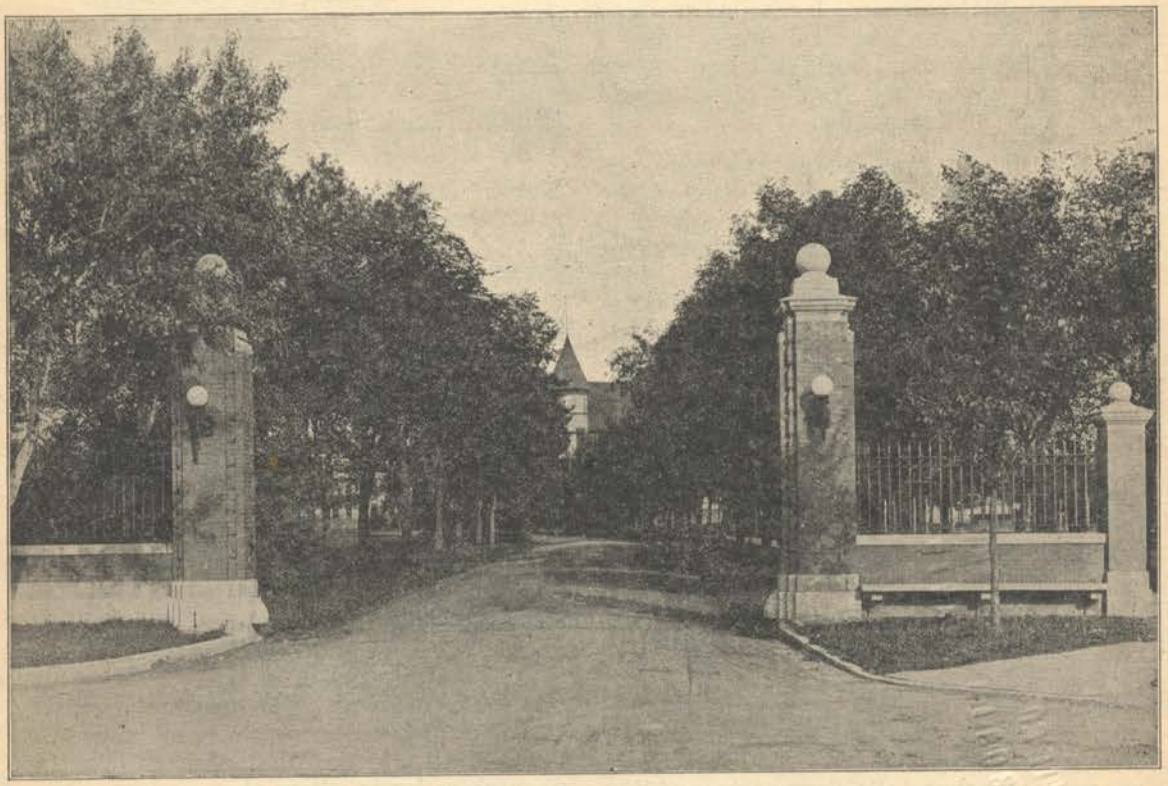
Volume V Number II

NORTH AND SOUTH DAKOTA HORTICULTURE

FEBRUARY, 1933



ENTRANCE TO NORTH DAKOTA AGRICULTURAL COLLEGE CAMPUS.

NORTH DAKOTA
HORTICULTURE
SOUTH DAKOTA

ORCHIDS

Alice A. Tollefson, Elk Point, S. D.

(Written September, 1932)

Not the gorgeous flower of fashion, but a little wild flower, which I am unable to identify with any description in my field book, but belongs with the Spiranthes, as the rows of tiny flowers are spiral.

Long ago, when the territory was still new, I found these flowers growing in the sloughs North of the "Government Slouth" (not Governor's) between Elk Point and Burbank. They grew about eight or ten inches high. The upper part of the stalk bore the close-set blossoms; the lower had only a few very small pointed linear leaves clasping the stem. I never saw any other foliage then. They were so fragrant that I often traced them by their scent.

In 1901, in July, on a trip in the Black Hills, while our party rested at noon in the tall brake ferns by a clear little stream, I climbed a small —was it mountain?—and on its stony sides, I found some of the identical orchids I had known in childhood. I was amazed that a plant should grow in such different localities.

Last May a friend and I went to dig wild flower plants in a certain meadow; one of the very few remaining virgin bits of grassland in this county. There, gentians lupines, liatris, or "prairie pine," as it was called here in early days, and a multitude of wild flowers I cannot name, still grow. My friend discovered some plants that consisted of a small clump of lily-like leaves springing directly from the earthly; we both lifted several chunks of earth containing them. Mine grew, but in the course of the summer the leaves disappeared; I hoped they would come again in the spring. A few days ago, I found green shoots appearing where the lily leaves had been; I have watched, I grew suspicious, and now my suspicions are verified. Two stalks of the orchid of slough and mountain are making sweet the corner of my garden with their heavy perfume.

* * * * * * * * *

There was another orchid of my childhood days; a larger, more beautiful one, growing on the higher ground bordering the sloughs. It was about fifteen inches tall; flowers resembling ladyslippers, but only the two lower petals of any size, and they were deeply fringed. They were white, and had a strong, sweet odor. I do not recall the foliage. The flowers had rather long stems attached to the parent stalk. If it was not Habernaria leucophaea, it was very much like it. I saw it only two or three summers.

NORTH AND SOUTH DAKOTA

Volume V February, 1933 Number II

Entered as second class matter at the Post Office at Pierre, South Dakota, under the Act of August 24, 1912.

Membership in the South Dakota Horticultural Society is one dollar, fifty cents of this amount is for the subscription to "North and South Dakota Horticulture." The subscription rate for affiliated organizations is twenty-five cents.

Published monthly at Hipple Printing Co., Pierre, S. D., by the North and South Dakota State Horticultural Socities.

TABLE OF CONTENTS

RESOLUTION

Resolved by The South Dakota State Horticultural Society assembled at Ipswich, South Dakota, Jan. 25th and 26th for its 44th annual session; that they wish to aid in every way possible the fruit and vegetable growers of this state to dispose of their produce, and are very much opposed to the peddling of Southern fruits and vegetables by truckers that pay no tax or license whatever, realizing that the growers of South Dakota cannot continue in this unfair competitive position and must get aid from our State Legislature.

Committee—
F. X. Wallner
J. B. Taylor
W. M. Simmons

WINTER MULCH ITS PURPOSE AND HOW TO APPLY IT

Purley L. Keene

During the autumn as the leaves fall from the trees they usually lodge in corners and nooks about the yard. If they are permitted to remain they serve as nature's method of mulching and protecting plants underneath them. The leaves and stalks of herbaceous perennials will usually collect and hold a number of leaves as they sift about the yard during the autumn months. The stems of these herbaceous perennial plants will frequently be broken up and they in themselves will serve as protective material. They will also collect snow which is one of nature's best winter mulches. Nature's way of protecting herbaceous perennial plants is with a layer of leaves, plant stems and snow. When we apply a winter mulch to herbaceous perennials we attempt to mimic nature's method as closely as possible.

The plant stems and leaves tend to partially decay during the winter, to be broken up and in the spring of the year to mat down and form a mulch over the surface of the ground. In many of our gardening texts we find comments on the desirability of cleaning up plant remains in the fall of the year and destroying them in order to combat particular insects and diseases. Where certain pests may be effectively combatted by this fall cleaning up it is undoubtedly to our advantage to make this fall clean up. However, if we do not replace the material we take from the garden with some other form of plant remains we will not have the natural winter mulch which nature has provided as we have removed it in the fall cleaning up process. At which time we not only cut or break off the plant stems but rake up and burn many of the leaves which have collected in and about our perennial beds and borders. From the winter mulch standpoint it is to our advantage to leave these plant stems in the perennial borders until spring so that we will have the benefit of their collecting leaves and snow for the protection of the roots and crowns of the herbaceous perennial plants. The flower beds and borders with the bare plant stems, some standing erect and others bent over at various angles and in various directions, will give a certain naturalness to the yard that can not be secured with an artificial mulch.

In a garden which is formally laid out with beds and paths it may be to our advantage to clean up these plant stems and apply an artificial mulch in order to carry out the systematic formality of the garden throughout the winter. But with informal borders, the more informal, bordering upon naturalistic, we can keep them the better it is. And and as a rule we want our places to look informal and natural. Some portions of the perennial borders will not collect of their own accord, sufficient leaves and snow for their adequate protection during the winter months and these places should receive further mulching material.

Some plants need more mulching material than others. As a general rule those plants whose leaves remain green late in the fall and well through the winter should receive a very light mulch. One author has suggested that crates be placed over Canterbury Bells, Foxglove and other similar perennials. Mulching material may then be placed around and over the crate to hold it in place. She also suggests that a stone or pieces of brush may be placed over the crate to keep it in place. This permits of some circulation of air over the foliage of these partially evergreen perennials and guards against the rotting of the leaves and the smothering of the plants.

Where artificial mulching material is used it should be well shaken up at the time of applying and only a layer of about two inches in thickness applied. A heavy mulch has the tendency to pack too solidly during the winter, to mat down too closely and as a result to smother the plants underneath by checking the circulation of air above them. Many home gardeners feel that if a little mulch is good for the plants, the more the better. This unfortunately is not any truer with the winter mulch than it is with other things in life. A little may be a good thing but too much may be detrimental. Besides the use of the plant stems which are left in the perennial borders and the leaves and snow which they collect, there are many other materials which may be used for the winter mulch. Any material which is brought in should be free of weed seeds; it should not be of such a nature that it will mat closely, preferably one which will not be readily blown away by the wind and one available in the locality without much cost. Good clean flax straw is very satisfactory. Oat, wheat and rye straw may be used and are used extensively for the mulching of strawberry beds.

Care should be taken where straw is used to get straw as free from weed seeds as possible. Peat moss, humus from woodlots or forest, pine needles from pine forests and other similar materials make satisfactory materials for the winter mulch. Hay may be used but it is not as satisfactory as some other materials since it has a tendency to mat and pack. Corn stalks are also frequently used. These have a tendency to mat and pack, particularly during winter sleet storms. If corn stalks are used they should be used sparingly and then in connection with the use of some other finer material. For instance, a few stalks of corn may be laid over leaves or straw to prevent this material from being blown away.

One author suggests the use of evergreen boughs. This of course would be possible only to regions where evergreen trees grew abundantly. The evergreen boughs do make a very satisfactory mulching material where they are available.

As a general rule the winter mulch is not applied until very late in the fall of the year, usually between Thanksgiving and Christmas time. However, during a year with an early fall of snow which may have drifted over your perennials your winter mulch may be applied earlier in order to keep the protective layer of snow from melting. Where the snow blew away from over your perennial borders it would be to your advantage to wheel in a few wheelbarrows full of snow from a neighboring snow drift and cover these bare portions. The ground is freezing underneath the snow drifts but it has not frozen to any great depth. If we can keep our snow drifts over our perennial borders we can check the thawing out of the soil and have a very ideal material for winter protection. The blanket of snow not only will prevent the ground from thawing out but it will also prevent deep freezing of the soil underneath the snow covering. It will also keep the temperature of the soil from going extremely low. Experiments have shown that bare ground not only freezes much deeper than ground which is covered with a blanket of snow but that the temperature of the soil goes much lower where no snow covering protects it. This fact is particularly important in orcharding, and commercial orchardists in the northern portions of the apple growing regions of the United States grow cover crops throughout the orchard in the fall of the year. These cover crops help to collect and hold the snow uniformly throughout the orchard so that the ground will be covered throughout the winter, if possible, with a blanket of snow which not only checks the depth of the freezing but also checks the severity of the freezing. As a result the orchardist guards against winter injury to the roots of his fruit trees. By the use of a cover crop, almost the same results can be obtained as with a winter mulch.

During the winter or any time after the mulch is applied and before it is removed it would be to our advantage to go out and break up the crust of sleet and ice which lies over the perennial beds since a solid sheet of ice over a bed of perennials will have a tendency to smother them. The roots and crowns and the leaves of the evergreen perennials need air throughout the winter and should we permit this blanket of sleet and ice to remain over the bed for too long a time the plants will be smothered for want of fresh air.

A mulching material made up of stems of plants such as flax straw may be laid down in such a way that these stems lay in all directions. With a mulching material of hay the stems are apt to lay parallel with each other and horizontal. This position tends to encourage matting and packing with the ultimate smothering effect on the plants underneath. If the plant stems of the mulching material can be made to stand somewhat upright, then air may be carried down along the stems through the crust of snow to the plants underneath.

Alfalfa fields which have been cut late in the fall of the year may be severely injured by having their crowns smothered during the winter sleet storms. The blanket of snow, since there are no plant stems left in the field to collect the snow, will be thin and will readily crust over. Where the alfalfa is not cut late in the fall of the year the plant stems will extend up through the snow blanket giving passages for air to pass from above the snow blanket down to the crowns of the alfalfa plants below the snow covering.

Some years we experience considerable difficulty from mice injury underneath the covering of snow and underneath the winter mulch. In order to guard against this winter injury it is advantageous to place poisoned food under the mulch for the mice to eat during the winter. This may be in the form of poisoned corn and wheat using strychnine or other similar poison. Care should be taken to see that it is placed so that domestic stock and pets will not be able to get to it.

The winter mulch should be taken off in the spring of the year. We should not be too hasty in removing the winter mulch and neither should we be too tardy in its removal. In many cases a portion of the winter mulch may be removed reasonably early in the spring and some of the winter mulch left to give a certain amount of

(Continued on page 24)

NORTH DAKOTA HORTICULTURAL SOCIETY NEWS LETTER

A. F. Yeager
Secretary
Fargo, N. D.

It is now time for payment of 1933 membership dues. Dues sent in voluntarily will save us the expense of sending personal notices.

The Wisconsin College of Agriculture at Madison has published a booklet entitled "Ways to Use Wisconsin Apples." If our people write for it they had best enclose five or ten cents for cost of printing and mailing. The same institution has a circular entitled, "Everyday Uses for Cherries."

E. L. Chambers, in "Wisconsin Horticulture," says that the best method of controlling onion maggots is to wet the soil and stems of the young plants with a solution of bichloride of mercury, one ounce to ten gallons of water. The same treatment is recommended for cabbage maggot and radish maggot.

A rose variety called "Silver Wedding" has no green coloring matter in its leaves, which are pure white. This variety cannot grow by itself but must be grown by grafting onto other strong growing varieties. The other varieties feed the white shoots.

According to F. A. Aust, in "Wisconsin Horticulture," early spring is a good time to make a lawn. He recommends three pounds of seed per thousand square feet, sowed on ground which has been rolled and then the surface slightly loosened with a rake. During the first year he recommends one quart of 4-12-4 commercial fertilizer per hundred square feet applied every two months. After applying the fertilizer, water it well.

R. E. Vaughn says, "In controlling Iris rot, all diseased portions of the rizomes should be cut away when the plants are divided. The sound portion should be disinfected with corrosive sublimate or other standard material.

The New York Experiment Station says that trees grown in alfalfa sod make practically as good growth as those grown in cultivated land. Alfalfa sod is superior to ordinary grass sod because it dries the ground less, holds snow better, and helps increase the nitrogen supply of the soil.

If Evergreens have been injured during the winter, as indicated by the reddening or browning of the needle tips, the plants should be given special attention in the spring in the way of fertilization and cultivation. Small Evergreens may be protected during the winter by burlap or perhaps even by a soil cover.

There are more officially recognized botanists in the United States than in any other country. Russia has the next largest number, which may be somewhat surprising.

"Woolgatherer," in the Florists Exchange, when asked whether phyllium seed could be grown here says, "Since so many commonly grown European seeds are established here I don't doubt that it could."

In shade tree experiments, the New York Experiment Station found that in every case spring planted trees put on more growth than those planted in the fall. Trees unpruned at planting time died much more rapidly than whose which were pruned.

The Maryland Fruit Grower mentions that a method of treating fire blight cankers was recently developed. It is to brush onto the cankers in the spring before growth starts, a solution made as follows: Add three ounces concentrated hydrochloric acid to a quart of hot water in an enameled kettle. In this liquid dissolve nine pounds of dry zinc chloride powder, heating if necessary to insure dissolving. Cool this mixture and pour it into seven pints of denatured alcohol, thoroly mixing. Keep this tightly stoppered until ready for use.

If you like winter bouquets of real flowers, the following three kinds are good ones to plant this spring: Globe Amaranth, Statice and Acroclinium. The first and third are annuals and the last is a perennial.

"Wild Bird Guests and How to Entertain Them" is a good book on the subject, published by E. P. Dutton & Co., of New York. The price is $2.50.

A recent bulletin from the Ohio Experiment Station concludes with the statement that Jonathan apples should be thinned to six or eight inches apart on the branches. While we have not done such extensive work here in North Dakota as is possible with such a staff as at Ohio, nevertheless this conclusion might be considered a good indicator as to the best distance apart for apples on our trees. Very often our apple trees under favorable conditions produce enormous crops, far more than they should, which makes them subject to winter injury the following winter.

Another Ohio bulletin gives the following as an excellent grafting wax to be applied with a brush in the melted state: Rosin 1 pound, linseed oil 3 fluid ounces, paraffin 5 pounds.

If one is considering the growing of field beans, Bul. No. 258 from the Montana Experiment Station, Bozeman, would be a very valuable thing to study. It is entitled "The Economics of Bean Production and Marketing in Montana." Among other things, they recommend growing only the Great Northern variety, which, incidentally, was

secured from the Indians by Oscar H. Will & Co., and introduced by them here in North Dakota.

"Woolgatherer," in the Florists Exchange, reports that a representative of the Royal Geographical Society, of Great Britain is making a trip into Madagascar in search of the man-eating tree, about which reports have been brought to civilization in times past. According to the reports the huge leaves of the tree close up on the victim and digest all edible portions much as does the anemone of the seashore.

In fertilizer experiments with potatoes at the Rhode Island Experiment Station, it was found that putting the fertilizer below the seed piece was a little better than other methods but that distribution along the side of the row was practically as good. All fertile methods were superior to broadcasting.

The New York Experiment Station reports good results in controlling damping-off of tomato seedlings by dusting the seed with copper sulphate-monohydrate. The same Station reports the following as being the best for dusting cut potatoes. Flowers of sulphur and hydrated lime mixed in equal proportions and used at the rate of six to seven ounces per bushel. They state that potatoes cut and treated three to four weeks before planting were benefited by the treatment. They say that dusting with sulphur or gypsum is likely to impair stands and reduce yields.

"Garden Roses" is the title of special bulletin No. 222 of Michigan Experiment Station, East Lansing. It looks like about the most complete bulletin on roses we have yet seen.

The University of Minnesota reports that raspberry canes should not be cut to less than 36 inches in length. Canes cut longer than that are more subject to drouth and high temperature injury, hence that is about the best height for our conditions.

Great improvement has been made in varieties of head lettuce in recent years, due, probably to the great increase in the production of head lettuce for commercial purposes. Our very best variety this last year was New York No. 12, although the variety we have been recommending as the best, namely, Stonehead, also made a good crop. I note that Washington State College recommends that only improved strains of the New York variety be grown there.

"Bean Diseases and Their Control" is the title of Farmers Bulletin No. 1692. Many bean diseases are carried in the seed, hence the desirability of securing disease-free seed.

A florists' telegraph delivery association which was organized within the Society of American Florists, seems to have outgrown its parent.

J. Comber, Sussex, England, says that to tie a gooseberry bush together (which may be desirable to prevent snow breaking it down in the winter) one should tie a lower outside branch with binder twine and walk around the plant raising the branches above the string. When one has entirely circled the plant, tie the string; then go around the plant again higher up and continue to spirally wrap the plant until the top is reached.

It has been found that fertilizers strong in nitrogen are likely to increase the length of potatoes as compared to their width, while potash has a tendency to shorten and widen the tubers.

EXTRACTS FROM THE DIARY OF A TRAVELLING MAN

W. A. Simmons

The following I saw inscribed on a sign shop: "We made signs before we could talk."

Jan. 5th: The Sioux Falls Cosmopolitan Club awards a distinguished service medal annually to the person who in their judgment has contributed most to the good of the community. This year the medal was awarded to our distinguished ex-president, Dr. N. E. Hansen. In making the award to Dr. Hansen the committee found that mankind had been greatly benefitted by the work he has done in our state during the past thirty-five years, and that residents of the Great Plains region and the Dakotas in particular had found their lives enriched by his efforts.

Part of the citation follows: "In roses his work, now going on, is an attempt to develop varieties hardy without winter protection, and to grow roses that are 100% thornless with leaves as well as wood smooth. He is making rapid progress along these lines in the experimental rose garden in Sioux Falls. Wherever horticulturists meet in the United States the work of Dr. Hansen is known, and those in the northern Great Plains district who wish to grow their own fruits and flowers, who wish to raise alfalfa for their stock or wheat grass for their pastures, are dependent upon the work of Dr. Hansen."

I had the pleasure of a brief visit with Dr. Hansen today. He had recently visited the Iowa station and was much impressed with the value of a new apple developed there which they have named "Joan." It is a cross between the Jonathan and the Anisim and derives its name from the first two letters in each name. He said it was a large, well-colored apple of good quality and much hardiness. While there he had a very pleasant visit with our good friends, Dr. Lantz and Dr. Pickett.

Started in 1927 through the efforts of Mrs.

Emma F. Shay of the college English department, Wessington Springs Junior College has what it claims is South Dakota's only Shakespeare Garden. The garden, surrounded by a stone wall of English design, contains nearly every tree, plant, and flower mentioned in Shakespeare's works. It is located on the college grounds and is modeled after similar ones in the eastern part of the country. Mrs. Shay obtained many of the plants on trips to England and others were furnished by American nurseries, while some were sent by a former student, now a resident of London.

Dr. W. G. Brierly of University Farm, St. Paul, known and admired by many of our members who have enjoyed the privilege of meeting him, has been doing some very valuable work in his pruning experiments, extending over quite a number of years. Something new and interesting seems to be revealed to him each year and to be passed on to us, who have neither the time, patience, or perhaps, rather, the seeing eye necessary to cajole Nature's secrets from her.

In raspberry pruning Dr. Brierly has found little difference in yield between canes pruned 36 inches and 60 inches. Below 36 inches, however, there is a rapid drop in yield, though an increase in the size of the berries. When not limited by such factors as drought, high temperatures and winter injury, the yield will be greater on the higher canes up to 60 inches. The berries from 60 inch canes averaged smallest and tended to become larger from successively shorter pruning. It was thought that this was due partly to the effect of pruning and partly to the fact that the size of berries normally decreases towards the tip of the cane. Severe pruning removes most of that part of the cane on which small berries would be produced and in affecting the vigor of the remaining laterals may increase the size of the berries.

Robert Page Lincoln, nationally known Minneapolis sportsman and conservationist, has given us some very interesting articles about the farm woodlot in his "Outdoors" column in the **Minneapolis Tribune.** He shows that a ten acre woodlot, when used strictly and solely as a woodlot, can easily become the best paying ten acres on the entire farm. If a woodlot is closely planted with no open spaces left, it will soon take on the characteristics of a real forest; the ground will be entirely shaded; leaves will be retained to form leaf mold to hold moisture and add fertility; and the trees will reproduce in the way they do in natural conditions.

But farmers often spoil the woodlot by trying to make a pasture of it. If stock is allowed to run in the woodlot, the ground used becomes a total loss, as the stock spoils the place as a productive woodlot while such trees as survive ruin it as a pasture. Planted as it should be, a woodlot will produce no grass, but stock will eat all young tree shoots as far up as they can reach, trample down the earth and destroy all new seedlings. Grass and trees are age old enemies and are not found growing together in a natural state. Neither will attain its maximum prosperity when an attempt is made to grow them together. Every farm should have a woodlot and produce its own posts, timbers, and fuel, but to attempt to utilize it as a pasture also is not thrift but foolishness.

Jan. 8th: The Minnesota experiment station has been endeavoring to breed a long-keeping apple. Judging from the following press dispatch someone has beaten them to it: "Mrs. Peter Jessen of Luverne, Minnesota, has an apple thirty years old which she picked in the orchard of her father in 1902. Mrs. Jessen stuffed the center of the apple with cloves and laid it away. During the holiday season just past she was exhibiting the apple, which is apparently as good today as it was thirty years ago." However, we can see its finish if the Eighteenth Amendment is repealed; those cloves will be needed for another purpose.

The pear trees at Versailles are said to have borne a bumper crop this year. The trees were planted by Louis the Fourteenth, the monarch who had so much furniture named after him, more than two hundred fifty years ago. From all accounts Louis was also very partial to peaches but, unlike Henry the Eighth of England, we have no record of his having "planted" any.

"Ladak" is the name given to a new alfalfa developed at the University Farm, St. Paul. It has been tested there for four years and is said to be as hardy as the Grimm variety and to yield slightly more per acre. In addition it is resistant to alfalfa wilt, to which the Grimm variety is susceptible.

In summarizing the chemical achievements of the past year, H. E. Howe, Ph. D., Editor of **Industrial and Engineering Chemistry,** tells of the following discoveries of interest to horticulturists:

Two new insecticides, deguelin and tephrosin, were developed by the United States Department of Agriculture. Dr. Howe says they cause no injury to plants and are relatively harmless to humans.

Synthesis of the well known insecticide, rotenone, is in prospect as a result of work by the United States Bureau of Chemistry. Natural rotenone comes from a branch of the pea family.

(Continued on page 24)

PLANTING THE STATE CAPITOL GROUNDS

Charles McCaffree

Every South Dakotan would certainly like to see the State Capitol a matter of just pride, the finest property in the State. The area is 32 acres with seven comprising the lake, which was made by damming up a draw deep enough that the water level of the lake is 18 feet below the larger portion of the grounds and leaving some fine slopes which lend themselves to attractive landscaping.

Planting of the old or original Capitol grounds was undertaken in 1913 under plans prepared by Phelps Wyman, of Minneapolis, considered one of the best landscape artists in the country. All who have visited the Capitol grounds will agree the planning is a very worthy and pleasing job.

Additional property was purchased in 1919 and Mr. Wyman drew suggestions for part of this. His work did not include the lake or the governor's residence which was entirely surrounded by rather large trees when purchased. This planting on the new property took place in 1920 and there have been only these two plantings except as some shrubs have been moved on the grounds, until 1931 when some small plantings of shrubs and Black Hills spruce was made. As I did not take charge until the last of May it was too late for much attempt, likely very fortunate, for the season was unfavorable.

Planting Old Style

American elm is the background of the first planting with hackberry and ash for the deciduous trees. Black Hills spruce, Colorado blue spruce and red cedars are grouped in several clumps in such way as to leave open vistas of the building and lawn. One of the finest rows of common lilacs in the state extends from the west entrance up to the building. The older style and hardy shrubs like the Van Houttei, sumac, common and Persian lilacs form a border around the grounds with Rugosas for variety.

Time for New Things

With the experience and the inspiration gained from this Horticultural Society this planter decided it was time for the new varieties which have established themselves. Philadelphus Virginalis and Glacier have been added and some July blooming lilacs, new viburnum and other shrubs selected particularly to carry the season of bloom into the summer. Creeping Rugosas have been planted on the steep banks along the walks. Some laurel leafed willows have been planned to hang over the water, weeping willows, bolleana, black walnut (these three not without some mortality), red barberry, Prunus triloba and Cistena with several which brings the plantings down to date for you horticulturists.

Evergreens Most Admired

For public grounds, the evergreens are not equalled, in my opinion. This was driven in beyond any forgetting when I used to walk a mile and a quarter every day while snow was on the ground and there was not any green or decorative plant to be seen until I reached my own front yard, where the Mughos and Glaucas and Colorado Blues stood bravely and cheeringly erect.

In 1932 about 1000 evergreens were planted on the Capitol grounds. The clay bank some 800 feet long and 20 feet high, too steep for grass or alfalfa or even Russian thistles which has bordered one side of the lake since 1910 was planted to Red Cedars of three types of foliage from five to seven feet high that we dug along the Missouri and set about as thick as they should grow. Choke cherries and wild currants are interspersed with them and all bordered at the top with lilacs, hollyhocks and a buckthorn hedge. It is suspected that some who would have opposed this rather low brow planting on the Capitol grounds are among those who praise it with enthusiasm now. Anyway it is a wonderful contrast to the gumbo which had resisted all attempts and you horticulturists know such a planting will go through many years as it has this last season with almost no loss. The foreman of the grounds and the men who work with him give excellent care and that is supposedly dependable regardless of changes in administration, which comes through the years.

The Hansen Collection

At a main entrance leading from Capitol avenue in front of the building the corner has been set apart for the ornamentals originated by Dr. Hansen. Only about fifteen have been planted but there is room for more as the stock can be secured. Hopa and Cistena and some all season Rugosas comprise this now, with some importations like Siberian Almond and the May Day tree. It is hoped this may be continued to make a worthy showing of the work done by our famous and most highly respected plant genius.

Nurseries Helpful

Secretary Vance has been helpful in two efforts besides his expert knowledge of plants, 1. getting stock of the nurseries, and, 2. from the Black Hills. The available fund has been less the past year than for several years. Mr. Vance secured big lots of stock from some nurseries late in the season at a very reasonable price. The effort of the nurserymen and the secretary were especially valuable in improving the new Memorial grounds, which were planned by the State College horticulturists, to which we gave the most careful attention in the belief

that South Dakotans wished to show the greatest possible honor to her soldiers. These helped also in all parts of the grounds. Mr. Vance brought in one load of recumbent junipers, totaling 308, from the upper Hills, which are going to lift fresh, smiling faces from all sections of the capitol property.

Capitol Always Bare

There has never been any foundation planting about the building, probably with the idea that the building alone is important. Without disputing the landscape plan there has now been made quite a planting of Pfitzers, Japonika, Tamariscafolia and the Black Hills Creeping Junipers. The big event of the biennium is the legislative session and these are especially for the legislators, who, by the way, have made many pleasant remarks about them.

Governor's Outdoor Living Room

As the strictly proper thing in home grounds an outdoor living room has been started at the Governor's residence. Hedging has been planted to border a space of about 100x150 which is partly shaded. Some ornamentals have been planted in the corners and the matrimony vine set to cover a considerable bare wall. It may take another administration before the first lady of our state may entertain behind green walls but care will bring that as fast as caragana and cotoneaster can grow. When your wife calls on some future governor's wife that lady may pour tea in a beautiful foliage inclosed outdoor room under the leaf screened sun or the stars.

PLANTING ROADSIDE GRAVEL PITS

J. W. Parmley, Ipswich, S. D.

South Dakota has wonderful highways and her citizens have just reason to be proud of them. The wildest dreams have been realized but this has been done at the expense of many scars on our beautiful terrain. I refer to the uneven, unsightly, gravel pits out of which material has been taken to make those roads what they are. I have yet to see where a contractor or land owner has tried to heal the wound or make the spot more sightly. They stand in ghostly gloom an indictment of our sense of beauty; filled with thistles or overgrown with sun flowers.

They are ideal locations for our efforts in making what this state is naturally, a wild fruit country. You have noticed in the gulches where a migrant seed found covering and friendly moisture, and the plum, the buffalo berry, the currant and gooseberry, the sand and choke cherry have grown in profusion.

The wild plum! How delicious. Never has the tame or irrigated fruit with all that the wizard has done for it approached the exquisite flavor the centuries have given it. Have you ever been in a plum thicket in the Elm or the Cheyenne or the Moreau or the other stream bottoms or gulches and seen the bushels of plums rotting? Of course you have. If ten years ago we had scooped up some of these plum stones and scattered them in the nearest gravel pit we would have thickets producing hundreds of bushels of fruit of better flavor than we can buy (even if we had the price which we have not) and have it free. This is true of other fruits native to our state.

Some years ago Prof. Hansen discovered a wonderful yellow plum on the Missouri in Campbell county. From him I got seedlings. A thicket is the result and today, June 25, 1932, many trees are so loaded that the limbs are resting on the ground. Some sports have appeared producing fruit an inch and a half in diameter. I have given away many small trees which under cultivation are producing much larger fruit than in a thicket.

My neighbor and useful South Dakota state builder, John B. Taylor has in his nursery walnut trees that have been bearing since the sixth year of planting. California produces no finer nut. How easily planted. The only tool needed is a crow bar. Jab it into the ground and drop the nut in the hole. Nature will do the rest.

That splendid South Dakotan, John M. Downer planted walnuts in the glacial till of Turner county and contrary to the thought of many wiseacres they grew and bore fruit many "an hundred fold." He sent me a bag of them. We ate a few but they were too good to destroy that way, so I put the bag in the car when going to Pierre and one beautiful winter afternoon sneaked down to Farm Island, and opposite where that wonderful plum thicket is I made holes thru the light crust of frost and there in coming years will be great trees bearing mute testimony to the vision of John M. Downer. May his shadow never be less. I never told Downer what I did but I believe it should go into imperishable record as one—only one of the many things he has done in making the world better because he passed this way.

Those unsightly gravel pits with their dry knolls and gravel slopes down to the water level are ideal for any of the fruits above mentioned. The chances are a thousand to one that the seed will never get there unless transported by man. The winds will bear the cottonwood, elm and other seeds and we see nature doing its slow but certain work. If aided how much quicker. How much more can be done to make unsightly spots a charm, a nucleus from which the prairie can

(Continued on page 24)

THE SCREECH OWL

O. A. Stevens, Fargo, N. Dak.

This is probably the best known species of its family. It may be a stranger to people who live on the prairie away from trees, but where any trees at all occur, it is likely to be found. So far as we know, these birds are permanent residents and do not move about much. At my own location on the outskirts of Fargo, I believe I most commonly see them during the fall, but I have not kept detailed records. It is quite probable that they move into towns at that season, following the scarcity of mice in the more open country. Frequently they roost in buildings, nest boxes or other artificial shelters. Gale Monson at Argusville, N. D., has banded five different screech owls caught in a certain hollow tree. The birds do not nest in this particular grove, but have been seen there at nearly all times of the year. One of the birds banded in October was retaken in March, and another banded in February was retaken in December.

The distribution of these birds is another indication that they do not migrate. Screech owls are found all over North America and the ornithologists now recognize fifteen different races of the species. The fact that the birds from different parts of the continent show characteristic differences in size, color, etc., shows that they have been fairly stationary in these areas for a long time.

The screech owls are the common small owls and the only small ones which have the peculiar tufts of feathers called "ears." The Saw-whet and Richardson's owls are small species without "ears." The Saw-whet is quite likely to be seen in this region and in addition to the absence of the feather tufts, may be distinguished by its considerably smaller size. The screech owls show one peculiarity which is found in only a few other species. Some individuals are gray in color, others are reddish brown. This is not a matter of either sex or age and the exact cause of it is not known.

The name "screech" owl is hardly appropriate. This word certainly does not describe the familiar tremulous call.

"Save that from yonder ivy-manteled tow'r
The moping owl does to the moon complain"

seems to fit it best. "Little horned owl," which seems to have been used to some extent, would be more nearly descriptive. In fact, this was the first name applied to the species by Mark Catesby in his "Natural History of Carolina." In that work, published in 1731, are found the earliest descriptions and good illustrations of some 60 species of our American birds.

These owls have usually been regarded as decidedly beneficial in their food habits. The classic publication of A. K. Fisher on the food of hawks and owls indicated that three-fourths of their food consisted of insects and destructive mammals (chiefly mice). About half of the stomachs examined contained insects or small animals and only some ten percent had song birds. A very detailed study by Dr. A. A. Allen of Cornell University of one pair of nesting birds, gave a less favorable result. Over a period of 44 days, the parent owls brought in birds on 35 days, insects on 28, and mammals on 12. From this study, as from many others it is evident that birds of most species feed upon what ever is most easily obtained if it is a satisfactory type. In early July these owls fed chiefly upon moths of the cut-worm group. When fish and rats happened to be plentiful they ate those. The number of song birds killed was unexpectedly large, but it is especially interesting that they did not reduce the nesting bird population of the neighborhood. Dr. Allen's explanation for this is that in most cases only one bird of a pair was killed and the other secured a new mate from among the unmated birds. Both birds of the pair of Baltimore orioles were caught and these were not replaced. These two reports need not be considered as conflicting. The data of the first are drawn from a wider range and should be more nearly representative. The screech owls may be less useful than formerly believed. An individual pair may destroy other individual birds the loss of which will be keenly felt, yet they may not be properly classed as destructive.

The nest is located in hollow limbs, old woodpecker holes, nest boxes, in openings about buildings or elsewhere. Nesting probably takes place in this region the latter part of March or early April. The eggs are white, nearly round, and about an inch and a quarter long. During the day screech owls are likely to be found napping in a tree. Perched on a limb close to the trunk, they are very inconspicuous. Here they may remain for hours paying little attention to what is going on. About sunset, the light begins to fail and they are off on their quest for food.

In the human mind, owls have long been associated with things which are uncanny or weird, with superstition and fear. Probably this is because of their nocturnal and carnivorous habits. Darkness, alone, has much of the effect, and the owls peculiar call in a quiet, deserted spot at night adds to the effect as do many other events of entirely different character. My limited personal contact with owls has brought surprise to see how inoffensive they seemed.

HORTICULTURAL RAMBLINGS

Max Pfaender, Sioux Falls, S. D.

This subject was chosen because it would give me considerable lee-way and there would be no opportunity for anyone to accuse me of not keeping within bounds as long as I confine my remarks to any of the phases or subdivisions of horticulture in the broadest sense. Of course, I want to warn you at the beginning that some of the "ramblings" may degenerate—metamorphose, or become exalted with horticultural "rumblings."

When our genial Secretary, Mr. Vance, requested me to present a paper at this meeting I had no idea or intention of not being here in person to stand before you as in many years past, to contribute my share to the program; but circumstances suddenly developed that influenced me to spend a second winter in the sunny South, and here I am sitting in my car on this beautiful Sunday morning—putting my ideas on paper, sitting here in the midst of this big nursery, with a huge field of green plants all around me, a block of Kumquats in full fruit to the left of me, several rows of flowering quince to the right of me in full fiery bloom; in the distant foreground, large fields of citrus fruits, with here and there patches of Italian Cypress, Bamboo, camelias, azabas and many other beautiful southern plants.

Before I go any further, I believe you prefer to have me say a few words about Dakota Horticulture and then if there is time, I will tell you a little more about Louisiana.

First, I wish to make a few forecasts—you know, that is one of my weaknesses! You have all heard about, and talked about these hard times, these abnormal times. It is my belief that things are more normal than they have been since before the war. Those good times were the abnormal times, and now it is a little difficult for us to come down to earth and be normal again. There are a few pains perhaps, and aches in this process of getting back to normal. It is normal to work, normal to save and be frugal; it is normal to grow good things to eat in our own yard; it is perfectly normal to grow lovely flowers, cut our lawns, and shovel snow; it was also normal to use less gas, to eat more potatoes and less cake. It was quite abnormal and foolish to play golf when the garden should be hoed, or to go on a week-end trip when the potatoes, or currant bushes needed spraying, or to play bridge when there were beans, beets and tomatoes to can for winter use.

I don't want to say that you and I, we, the selected and favored few; we, the inner circle of horticulturists need any chiding along these lines, but rather refer to the general public.

I believe, that in getting back to normal times now, there will be more demand for nursery stock which will help on the grocery bill, such as berries, fruits, asparagus, rhubarb, tree fruits, etc. There will be more and larger gardens planted. There will be more interest in home orchards, pruning, spraying, and cultivation for best results.

I believe there will be more forest trees planted, for during the last few years we have learned how the trees can help on the winter's fuel bill. Even Cottonwoods, Box Elders, and Willows have supplied a large amount of fuel this winter.

Planting trees is building the future, the state, and the counties should plant large areas of forests for future use. South Dakota should have ten or more state forests, each consisting of a thousand acres or more, scattered through the various parts of the state. Each County should have a county forest of one hundred acres or more. These forests would, in the future be productive, and would serve to take care of some of the unemployed and fuel problems during such periods as these.

The highways should be lined with walnuts and other desirable trees. Our politicians are too near-sighted or this would have been done long ago.

The planting of orchard fruits should be strongly advocated with big emphasis on the low bush type tree. Top waking with explanations and demonstrations should be taught in every rural school, or a special course of a week or two during winter months for all farmers and home-owners, somewhat like the old "farmers' institute."

Landscaping seems to be partly dormant, or on weak legs right now, but to a certain extent people are still hungry for the beauties of nature and spend small amounts to satisfy this craving.

Bargain hunting is a sign of the times, and many a buyer will pat himself on the back after he has bargained with some tree-peddler, but won't know until too late how badly he was fooled. Some unscrupulous dealers buy a poor lot of stock and open a sales yard and sell cheap, to be gone tomorrow. Or they sell stock right off of a truck, and people buy because this stock is cheap. Oh! how dear it is! Play safe and patronize your home nursery, where stock is fresh and true to name.

Our society has been working for many years. We have a winter meeting once a year and then go about our daily tasks until next year. Do we accomplish all that is possible? I doubt it. Have we a working program? Now, let's turn Bolshevik and discuss and decide on a five or ten year program with certain definite ends in

view to work for, and each year have our reports on progress that is being made.

We have catered a great deal to flower gardening, to lawns, yards, etc. We have neglected the real worker and producer, the he-man farmer. Let us encourage him to cultivate more trees and orchards—that is a man's job—and prove to him that it will benefit him.

Let us adopt a slogan as follows:

"EVERYONE A HORTICULTURIST"

and start out in earnest to make everyone a horticulturist. It is a definite plan; it has possibilities, and many ramifications. But if we succeed, what will the results be? Trees, orchards, groves, fruits, and gardens everywhere—larger, bigger, and better than ever before. The individual as well as the State will be enriched thereby. Even a blacksmith, or a butcher, nay, even the garbage man can be made into an amateur horticulturist. Let's do it.

WINTER MULCH, ITS PURPOSE AND HOW TO APPLY IT

(Continued from page 15)

protection until later in the spring. The time of removing will vary from year to year and also with the different kinds of plants so that no set time can be given. A good guide to use is to watch the perennial borders and when the plants begin to get uneasy and to start to grow underneath and up through the mulch then it is time to remove at least a portion of the winter mulch. In some cases a portion of the winter mulch may be raked off from over the crowns of the perennials so that the new leaves will grow up through the winter mulch. The bulk of the winter mulch may be left in the beds to serve as a summer mulch or it may be spaded into the soil to add humus and plant food to the soil.

EXTRACTS FROM THE DIARY OF A TRAVELLING MAN

(Continued from page 19)

Synthetic rotenone is expected to be more durable, much cheaper, and of course can be produced to any extent the demand may make necessary.

"White paper from southern yellow-pine forests," says Dr. Howe, "has become an actuality as a result of successful experiments conducted by Dr. Charles H. Herty. This makes available huge pine forests in the south which previously could not be used for making paper. Commercial operation has not yet been started."

PLANTING ROADSIDE GRAVEL PITS

(Continued from page 21)

get the most delicious fruit; and a suggestion to transplant some of the thousands of shoots around the homes.

The work is nil. In addition to this little effort, lets fill a pocket with ash and elm seeds as well as plum stones, apple and other seeds and as we roll along the highways plant a handful out at the edge of a slough or in a dry run. Those who follow in the coming years and centuries will reap where we have sown.

A small amount of permanent planting in the way of trees, shrubs and perennial flowers will finally result in a beautiful home.

We have some new fruits and vegetables. A trial of some of these that you believe are adapted to your conditions will furnish a very interesting study during the summer.

Select your seed and nursery stock early and carefully. You will have to expend considerable work on them later and you will want as large a crop as possible.